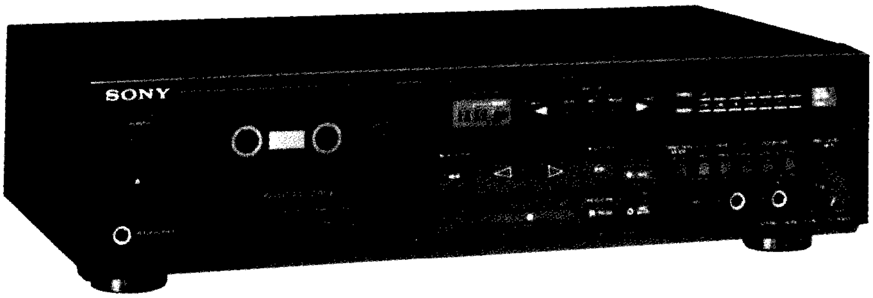
# SERVICE MANUAL

***US Model***
***Canadian Model***
***AEP Model***
*UK Model*



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

| Model Name Using Similar Mechanism | TC-R503 |
|---|---|
| Tape Transport Mechanism Type | TCM-CMAY B-13 |

## SPECIFICATIONS

Recording system
4-track 2-channel stereo
Fast-forward and rewind time
Approx. 90 sec. (with C-60 cassette)
Bias frequency 105 kHz
Signal-to-noise ratio (NAB, at peak level)

| DOLBY NR switch / Cassette | OFF | B TYPE ON | C-TYPE ON |
|---|---|---|---|
| TYPE IV (Sony METAL-ES) | 58 dB | 65dB | 71 dB |
| TYPE II (Sony UX-S) | 57 dB | 64 dB | 70dB |
| TYPE I (Sony HF-S) | 54 dB | 61 dB | 67dB |

Total harmonic distortion
1.0% (with Sony METAL-ES cassettes)
Frequency response
DOLBY NR OFF
- With TYPE IV cassette (Sony METAL-ES)
  30 15,000 Hz (±3 dB)
  30 13,000 Hz (±3 dB, 0 VU recording)
- With TYPE II cassette (Sony UX-S)
  30 15,000 Hz (±3 dB)
- With TYPE I cassette (Sony HF-S)
  20 14,000 Hz (±3 dB)

Wow and flutter 0.07% WRMS (NAB)
inputs Microphone inputs (phone jacks)
Sensitivity 0.25 mV (-70 dB)
For a low-impedance microphone
Line inputs (phono jacks)
Sensitivity 77.5 mV (-20 dB)
Input impedance 47 kilohms
outputs Line outputs (phono jacks)
Output level 0.44 V (-5 dB) at load impedance 47 kilohms
Load impedance over 10 kilohms
Headphones output (stereo phone jack)
Output level -28 dB at load impedance 8 ohms

MICROFILM

**General**
Power requirements
USA and Canadian model: 120 Vac, 60 Hz
UK model: 240V ac, 50/60Hz
AEP model: 22OV ac, 50/60 Hz
Power consumption
20 Watts
Dimensions Approx. 430 x 110 x 255 mm (w/h/d)
($17 \times 4^3/_8 \times$ 10% inches)
including projecting parts and controls
Weight Approx. 3.9 kg (8 lbs 10 oz)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND **IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

**ATTENTION AU COMPOSANT AYANT RAPPORT A LA SECURITE**

**LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHEMATIQUES ET LA LISTE DES PIECES SONT CRITIQUES POUR LA SECURITE DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS DUE PAR DES PIECES SONY DONT LES NUMEROS SONT DONNES DANS CE MANUEL OU DANS LES SUPPLEMENTS PUBLIES PAR SONY.**

# STEREO CASSETTE DECK

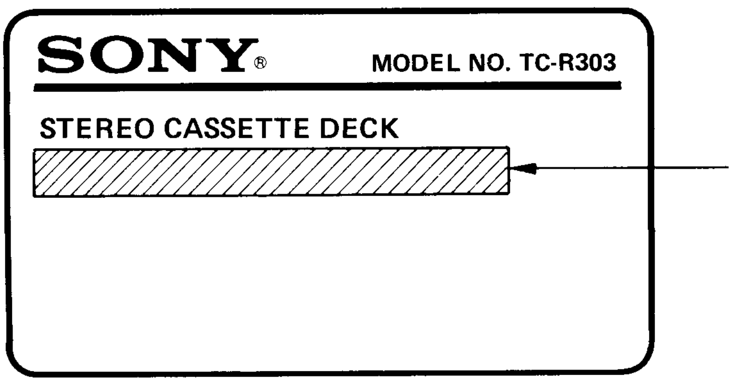
SONY

TABLE OF CONTENTS



## MODEL IDENTIFICATION

*– Specification Label –*




US, Canadian Model: AC: 120 V 60 Hz 20 W
AEP Model: AC: 220 V ~ 50/60 Hz 20 W
UK Model: AC: 240 V ~ 50/60 Hz 20 W

## SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampres). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operate voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

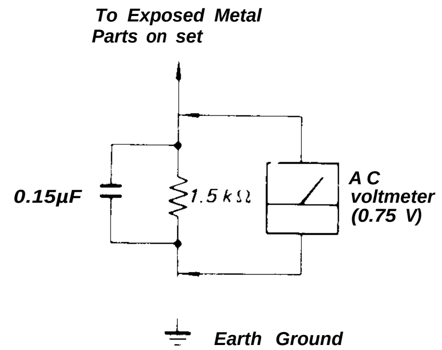



Fig. *A. Using an AC voltmeter to check AC leakage.*

## LOCATION AND FUNCTION OF CONTROLS

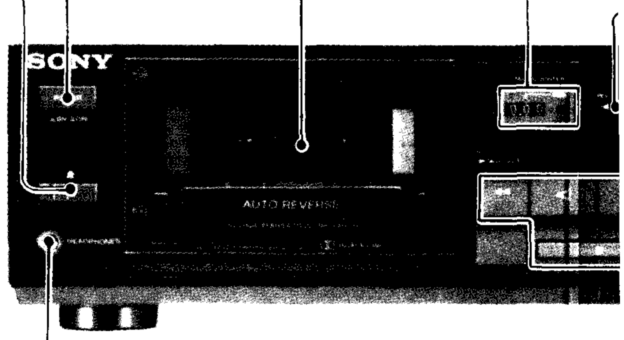
### FRONT PANEL'

TAPE COUNTER and RESET button
The tape counter provides convenient reference points for recording and playback To reset to zero, press the RESET button

**Cassette holder**

POWER switch

⏏ (eject) button




HEADPHONES **jack** (stereo phone jack)

**Tape operation buttons**
◀◀ (leftward fast winding) button
◀ (reverse) button
▶ (forward) button
▶▶ (rightward fast winding) button
● REC (record) button
■ (stop) button
II PAUSE button
Press to stop the tape momentarily during recording or playback To disengage the pause mode, press it again
○ REC MUTE (record muting) button

### REAR PANEL

LINE IN (line input) jacks (phono jacks)
Connect to the tape outputs (recording outputs) of an amplifier for tape recording

SYNC
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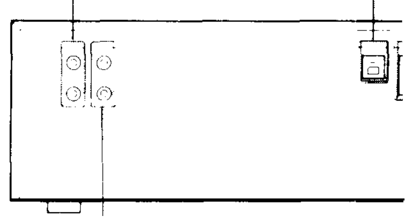

CONT
IN: Co
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OUT: (
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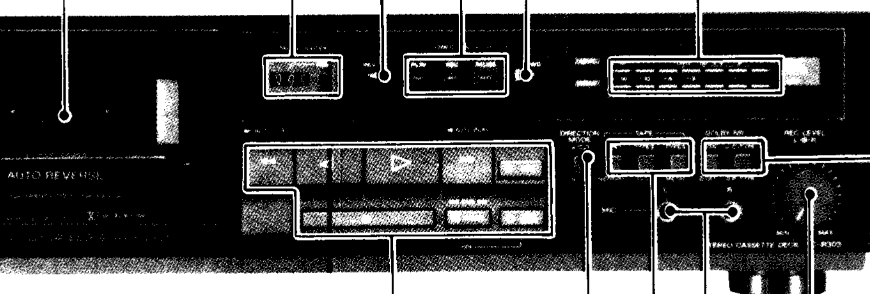
LINE OUT (line output) jacks (phono jacks)
Connect to the tape inputs of an amplifier for playback.




**Tape operation indicators**
Indicate the current operation mode: PLAY, REC or PAUSE.

**DIRECTION indicators**
Indicate the current tape transport direction: ▶ FWD (forward) or ◀ REV (reverse).

**PEAK LEVEL METERs**
Show the peak input level of each channel during recording, and recorded levels during playback.

**DOLBY NR* (Noise Reduction) switches**
Press to record or play back using the Dolby NR system.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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**REC LEVEL (recording level) controls**
Turn to adjust the recording level while referring to the PEAK LEVEL METERs.

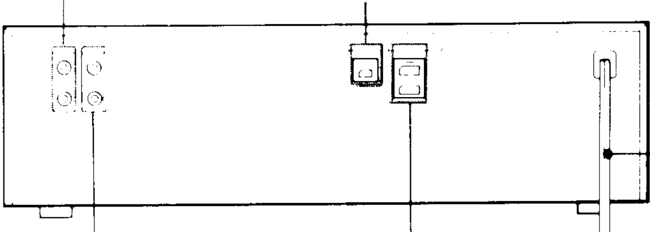
**MIC (microphone input) jacks** (phone jacks)

**TAPE selectors**
Press to select the type of tape you are using.

**DIRECTION MODE selector**
: Set the selector depressed for recording on both sides or continuous playback of both sides of the cassette.
: Set the selector released for recording or playback of one side of the cassette only.
Once pressed, the selector locks in depressed position. Press again to release it.

...phono jacks)
...ts recording outputs of an
...

**SYNC connector** (3-pin)
For synchronized recording with a turntable, connect to the SYNC connector of the Sony turntable system. For further details, refer to the instruction manual of the optional Sony turntable system equipped with the SYNC connector.



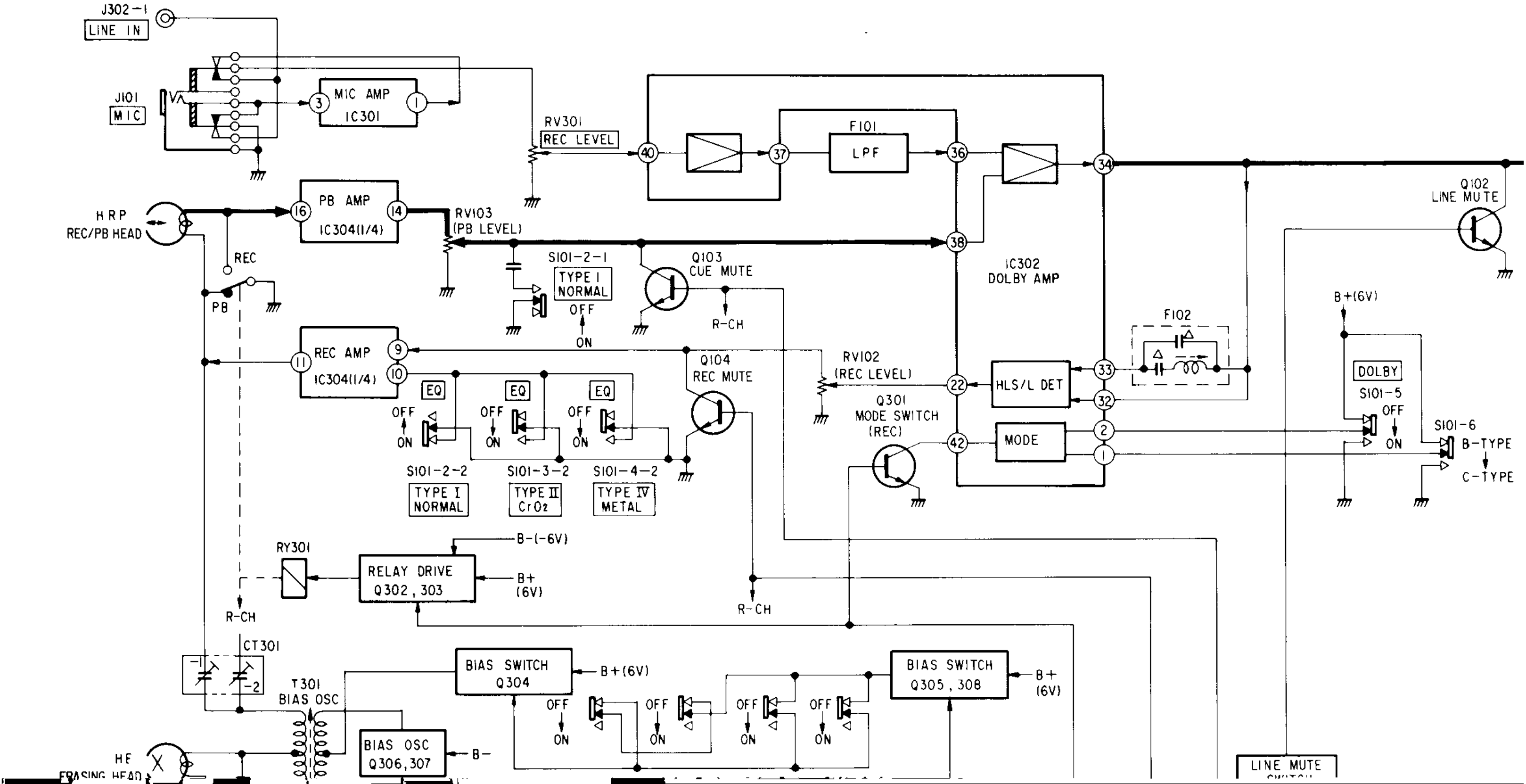
**AC power cord**

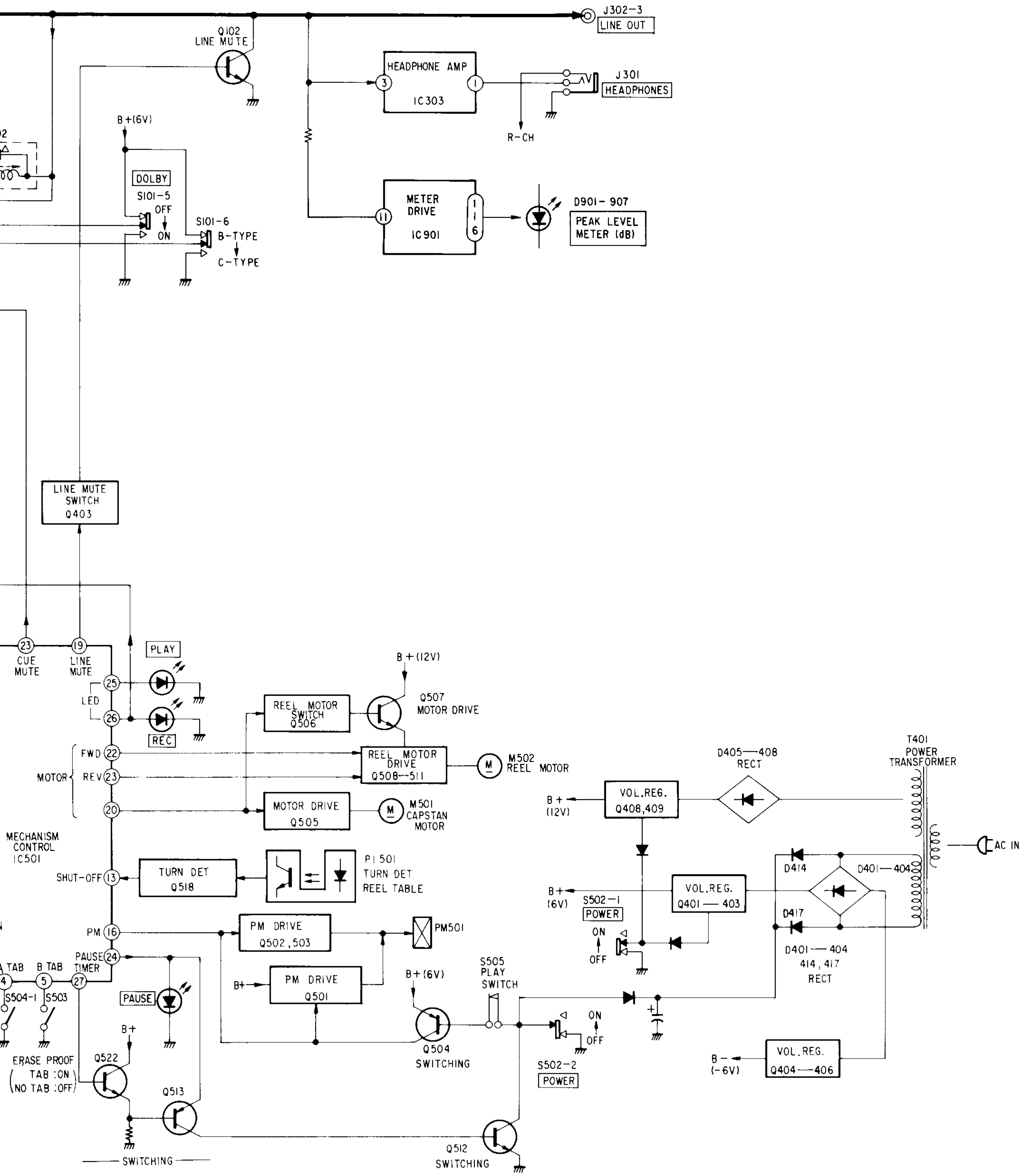
**CONTROL S connectors** (4-pin)
**IN:** Connect to the optional Sony RM-88 wireless remote control unit or the CONTROL S OUT connector of another piece of Sony equipment.
**OUT:** Connect to the CONTROL S IN connector of another piece of Sony equipment.

**...cks** (phono jacks)
...of an amplifier for playback

# SECTION 1
# OUTLINE

## BLOCK DIAGRAM




J302-3
LINE OUT
Q102
LINE MUTE
HEADPHONE AMP
IC303
J301
HEADPHONES
R-CH
B+(6V)
DOLBY
S101-5
OFF
ON
S101-6
B-TYPE
C-TYPE
METER
DRIVE
IC901
D901- 907
PEAK LEVEL
METER (dB)
LINE MUTE
SWITCH
Q403
CUE
MUTE
LINE
MUTE
PLAY
LED
REC
B+(12V)
REEL MOTOR
SWITCH
Q506
Q507
MOTOR DRIVE
FWD
REV
MOTOR
REEL MOTOR
DRIVE
Q508--511
M502
REEL MOTOR
MOTOR DRIVE
Q505
M501
CAPSTAN
MOTOR
MECHANISM
CONTROL
IC501
SHUT-OFF
TURN DET
Q518
P1501
TURN DET
REEL TABLE
PM
PM DRIVE
Q502,503
PM501
PAUSE
TIMER
B TAB
S504-1
S503
B+
PM DRIVE
Q501
PAUSE
B+(6V)
S505
PLAY
SWITCH
Q504
SWITCHING
ERASE PROOF
TAB :ON
NO TAB :OFF
Q522
Q513
SWITCHING
Q512
SWITCHING
S502-2
POWER
ON
OFF
T401
POWER
TRANSFORMER
D405—408
RECT
VOL.REG.
Q408,409
B+
(12V)
AC IN
D414
D401—404
B+
(6V)
S502-1
POWER
VOL.REG.
Q401 — 403
D417
D401—404
414, 417
RECT
B-
(-6V)
VOL.REG.
Q404—406

# SECTION 2
# ADJUSTMENTS

## 2-1. MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

| Torque | Torque meter | Meter reading |
|---|---|---|
| FWD | CQ-102C | 30 to 70 g-cm (0.43 to 0.97 oz-inch) |
| FWD Back tension | CQ-102C | 2 to 6 g-cm (0.03 to 0.08 oz-inch) |
| REV | CQ-102RC | 30 to 70 g-cm (0.43 to 0.97 oz-inch) |
| REV Back tension | CQ-102RC | 2 to 6 g-cm (0.03 to 0.08 oz-inch) |
| FF, REW | CQ-2OlB | 90 to 160 g-cm (1.3 to 2.2 oz-inch) |

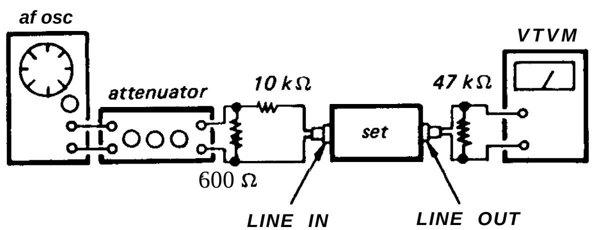
## 2-2. ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  DOLBY NR switch: OFF
  TIMER switch: OFF

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

**– Record Mode –**




Standard Input Level

| | LINE IN |
|---|---|
| source impedance | 10 kΩ |
| input level | 0.25 V (–10 dB) |

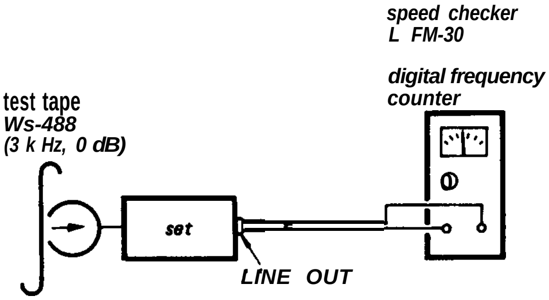
Standard Output Level

| | LINE OUT |
|---|---|
| load impedance | 47 kΩ |
| output level | 0.44 V (–5 dB) |

## Tape Speed Adjustment

Procedure:

Mode: FWD playback



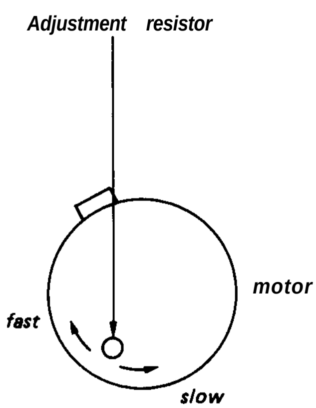

Specification:

| Speed checker | Digital frequency counter |
|---|---|
| -1-+1% | 2,970-3,030Hz |

Frequency difference between the beginning and the end of the tape should be within 0.84% (25Hz).

Adjustment Location:

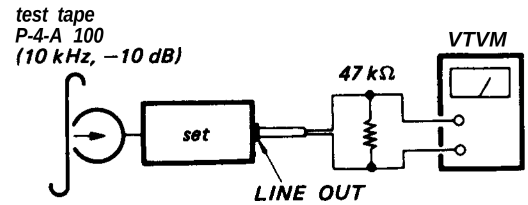
Adjust by using a screwdriver. Turning in the direction of clockwise, speed will be fast.



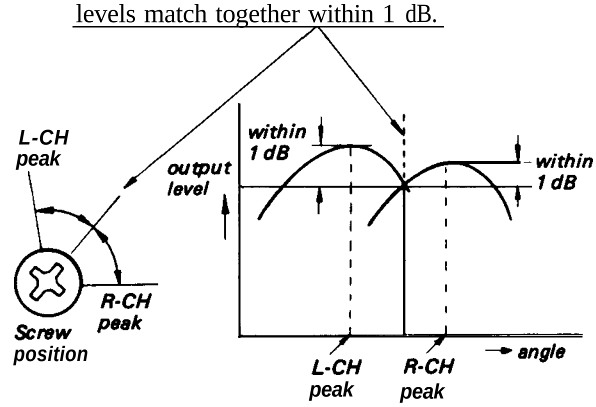

## Record/Playback Head Azimuth Adjustment

Procedure: Adjust both NOR and REV.

1. Mode: playback

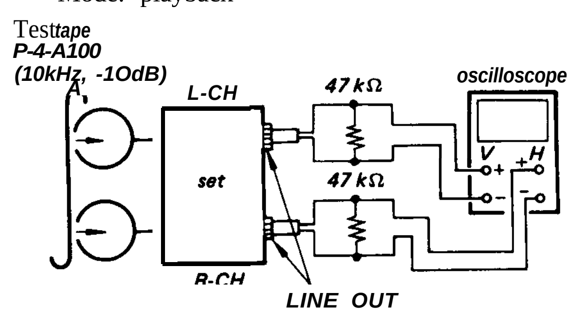


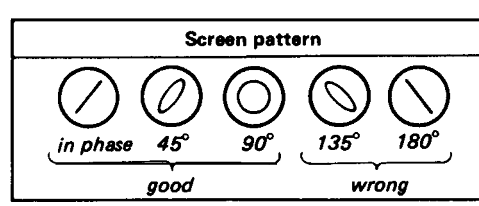

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



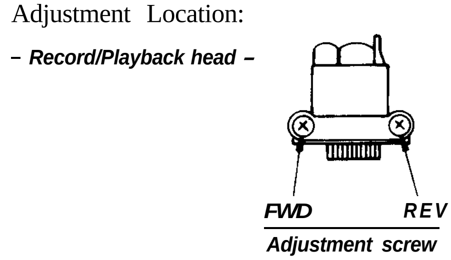

3. Phase Check

Mode: playback



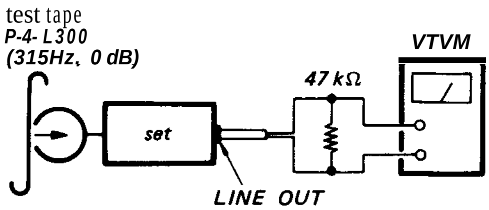

Adjustment Location:



## Playback Level adjustment

**Procedure:**

1. Mode: playback

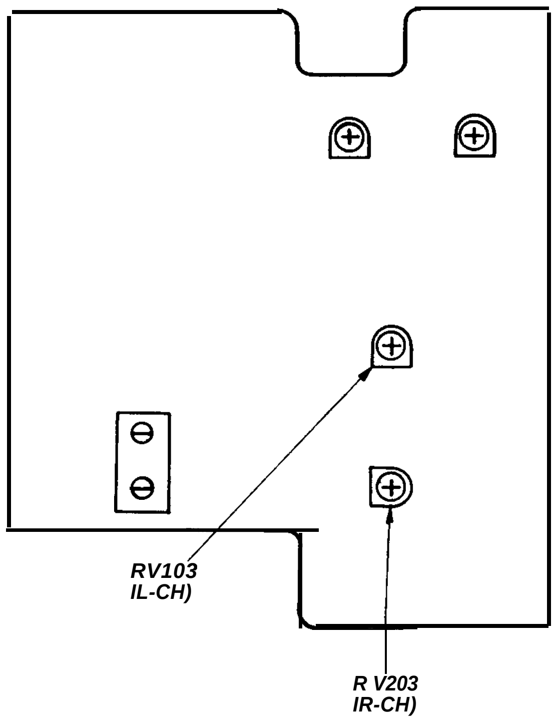



Adjust RV103 (L-CH) and RV203 (R-CH) so that the specification is met.

**Specification:**

LINE OUT level: 0.41 to 0.46 V
(-5.5 to -4.5 dB)
Level difference between channels:
less than 0.5 dB
Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location: audio board



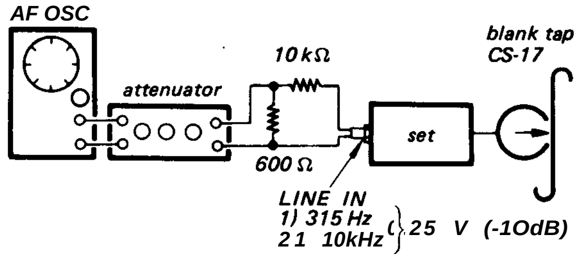

## Record Bias Adjustment

**Setting:**

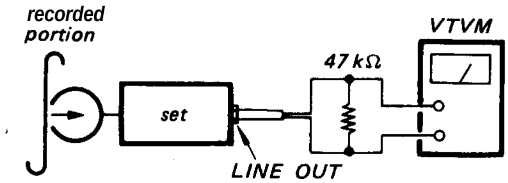
REC LEVEL control: standard record
(See page 7.)

Procedure:

1. Mode: record

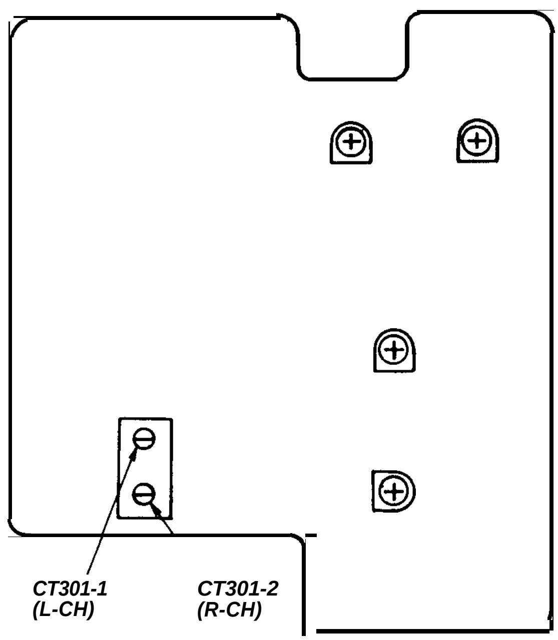



2. Mode: playback




Confirm that the 1OkHz playback output is 0±0.5 dB relative to the 315 Hz output. If necessary, adjust CT301-1 (L-CH), CT301-2 (R-CH) and repeat the steps given above.

Adjustment Location: audio board



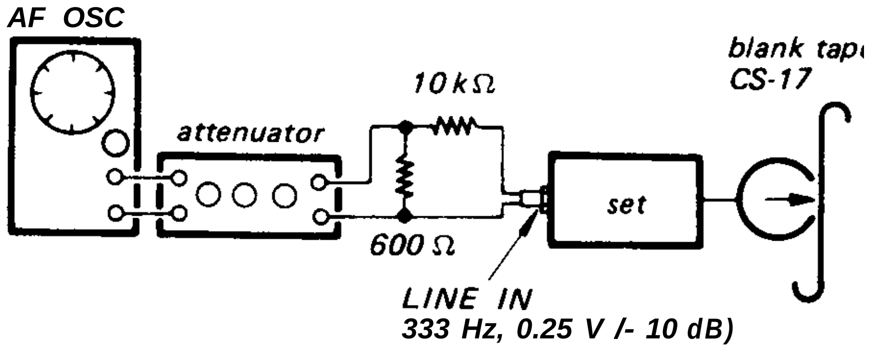
**Record Level Adjustment**

Setting:

REC LEVEL control: standard record
(See page 7.)

Procedure:

1. Mode: record



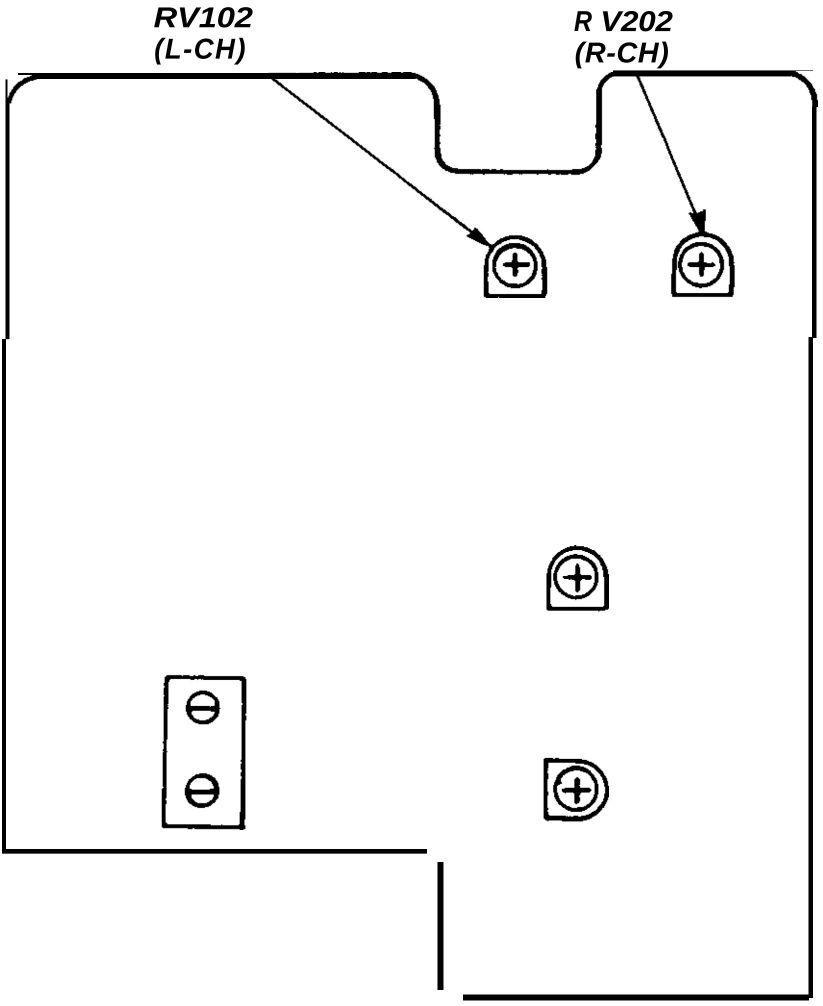

2. Mode: playback


3. Playback the signal recorded in step 1.
Confirm that the signal level is within the specification below. If necessary, adjust RV102 (L-CH), RV202 (R-CH) and repeat the step l-3.

Specification:

LINE OUT level: 0.41-0.46 V
(-5.5 to -4.5 dB)

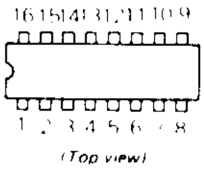
Adjustment Location: audio board



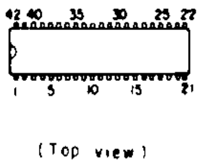
# SECTION 5
# DIAGRAMS

## Semiconductor lead layouts

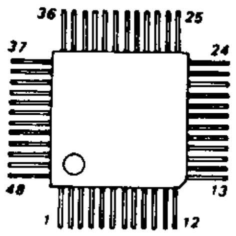
**CX10032A**



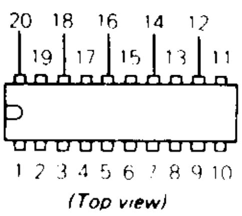

**CX20187**



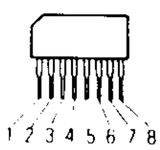

**CXD1017Q**



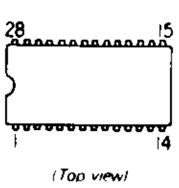

**M50761-417P**



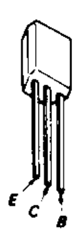

**M5218L**




**TC9312N-045**

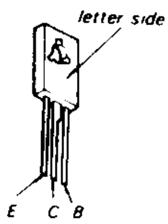



**2SB808**
**2SC634SP**
**2SC2120-Y**
**2SD1012-F2**
**DTA114ES**
**DTA144WS**
**DTC114ES**
**DTC124ES**
**DTC143TS**




**2SC2001**
**2SC3622A-L**
**2SD1387**

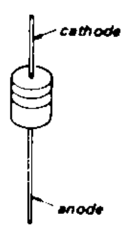

**2SB731**
**2SD809**



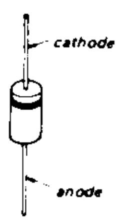

**2SA1175**


**2SD1585-K**

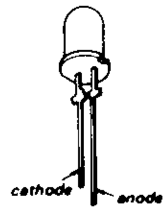

**1SS202-1**



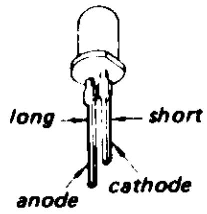

**10E2**
**HZS6A1L**
**HZ6B3L**
**HZ12B2L**



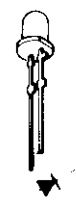

**TLG114A**




**GL5HD22**




**GL5HY22**



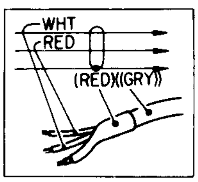
## 3-1. MOUNTING DIAGRAM

- **Semiconductor Location**

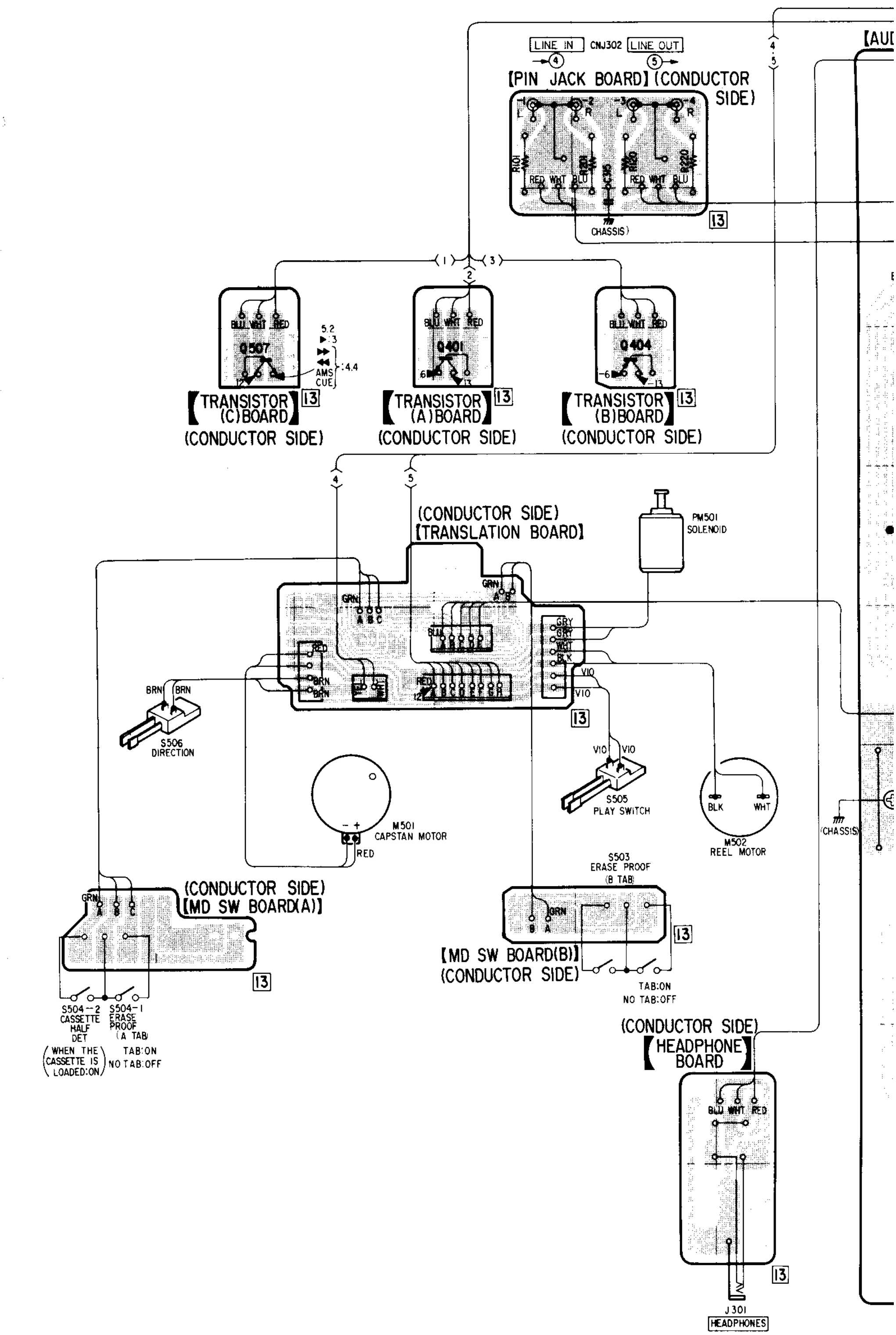
| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D301 | H-12 | Q102 | C-9 |
| D401 | B-13 | Q103 | G-8 |
| D402 | B-13 | Q104 | G-8 |
| D403 | B-13 | Q202 | C-7 |
| D404 | B-13 | Q203 | H-8 |
| D405 | C-14 | Q204 | H-8 |
| D406 | C-14 | Q301 | F-10 |
| D407 | C-14 | Q302 | H-12 |
| D408 | C-14 | Q303 | H-11 |
| D409 | C-12 | Q304 | H-14 |
| D410 | C-11 | Q305 | H-14 |
| D411 | D-11 | Q306 | H-13 |
| D412 | C-12 | Q307 | H-14 |
| D413 | C-12 | Q308 | H-14 |
| D414 | B-13 | Q401 | D-4 |
| D415 | D-14 | Q402 | C-12 |
| D416 | C-14 | Q403 | B-11 |
| D417 | B-13 | Q404 | D-5 |
| D501 | D-12 | Q405 | B-12 |
| D502 | D-12 | Q406 | B-11 |
| D503 | D-13 | Q407 | D-11 |
| D504 | D-12 | Q408 | C-12 |
| D505 | D-13 | Q409 | C-12 |
| D507 | F-13 | Q501 | D-12 |
| | | Q502 | D-13 |
| D511 | E-10 | | |
| D512 | D-11 | Q503 | D-13 |
| D513 | D-11 | Q504 | D-12 |
| D514 | I-17 | Q505 | D-13 |
| | | Q506 | E-13 |
| D515 | I-17 | Q507 | D-2 |
| D516 | I-18 | | |
| D517 | I-18 | Q508 | F-14 |
| D518 | I-16 | Q509 | F-13 |
| D519 | G-12 | Q510 | F-14 |
| | | Q511 | F-13 |
| D520 | E-13 | Q512 | F-13 |
| | | Q513 | F-13 |
| IC301 | I-9 | Q514 | G-11 |
| IC302 | E-8 | Q515 | G-14 |
| IC303 | B-8 | | |
| IC304 | G-9 | Q518 | E-12 |
| IC501 | F-12 | Q519 | E-10 |
| | | Q520 | E-11 |
| IC502 | F-11 | Q521 | E-11 |
| IC801 | C-22 | Q522 | F-13 |
| | | Q523 | G-14 |
| P1501 | J-14 | | |

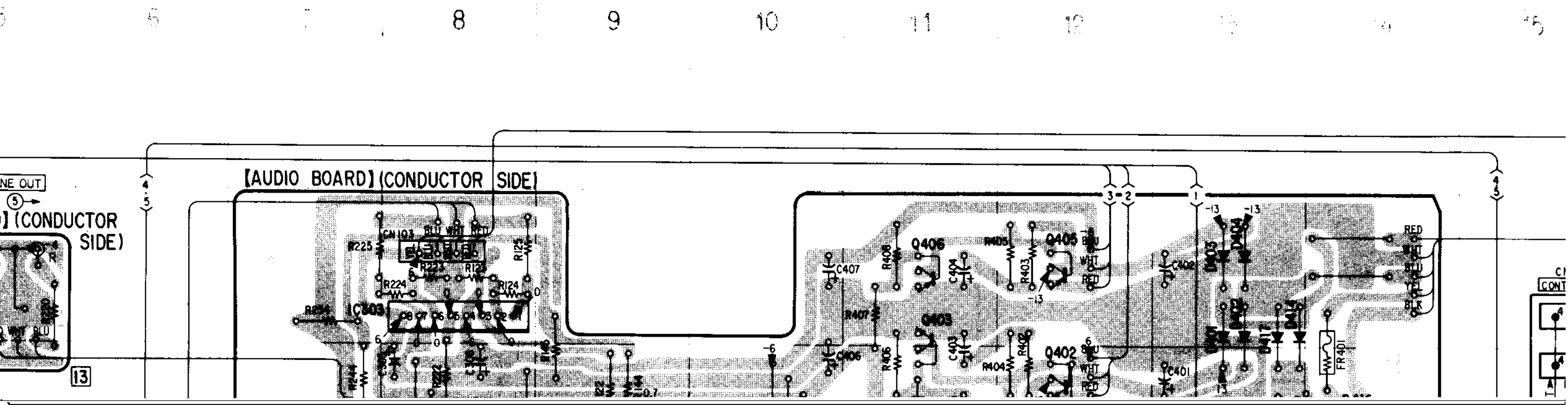
**Note:**

- Color code of sleeving over the end of the jacket.

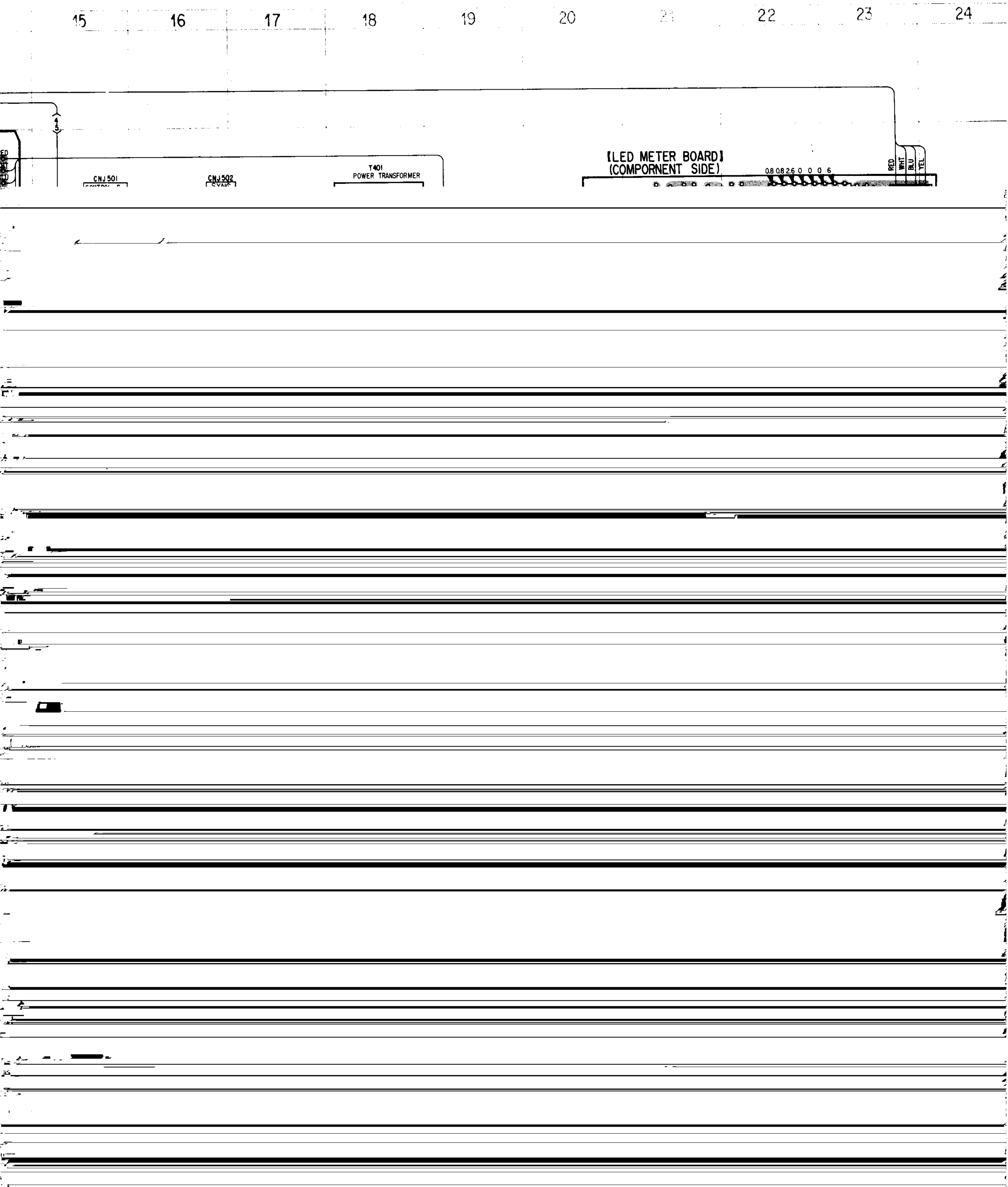



- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [-]← : indicates side identified with part number.

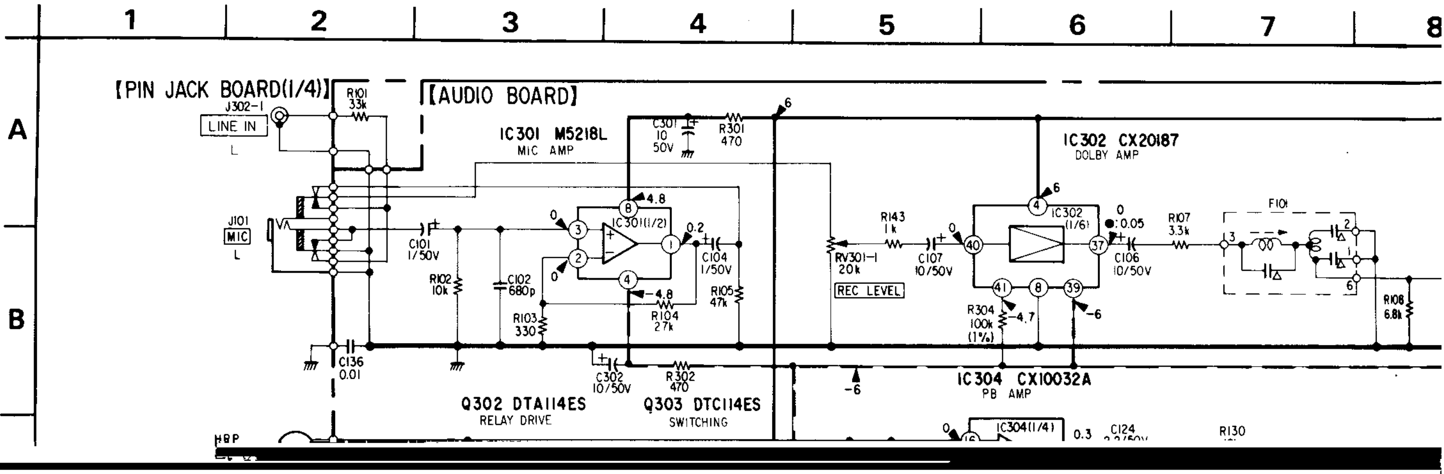


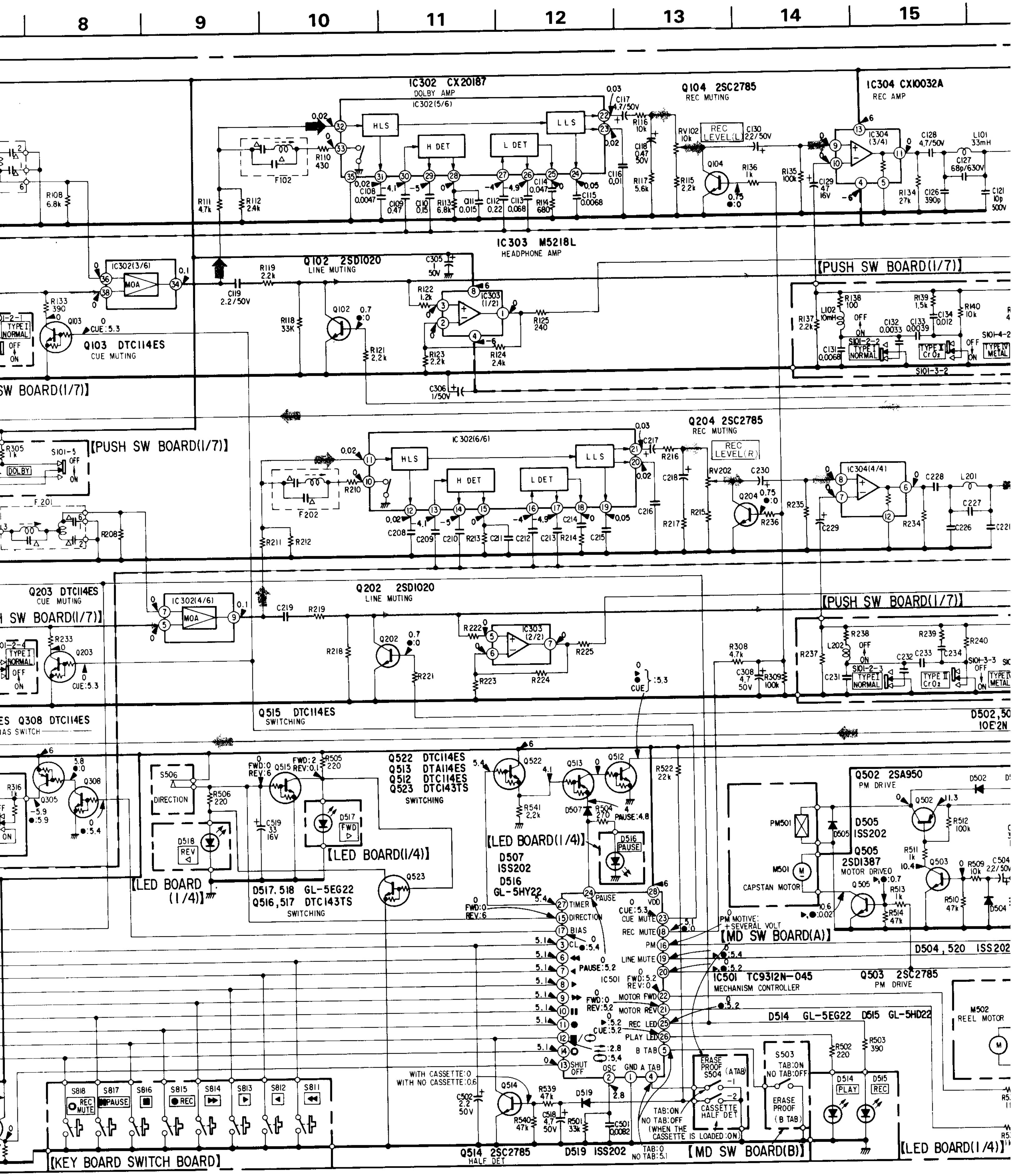


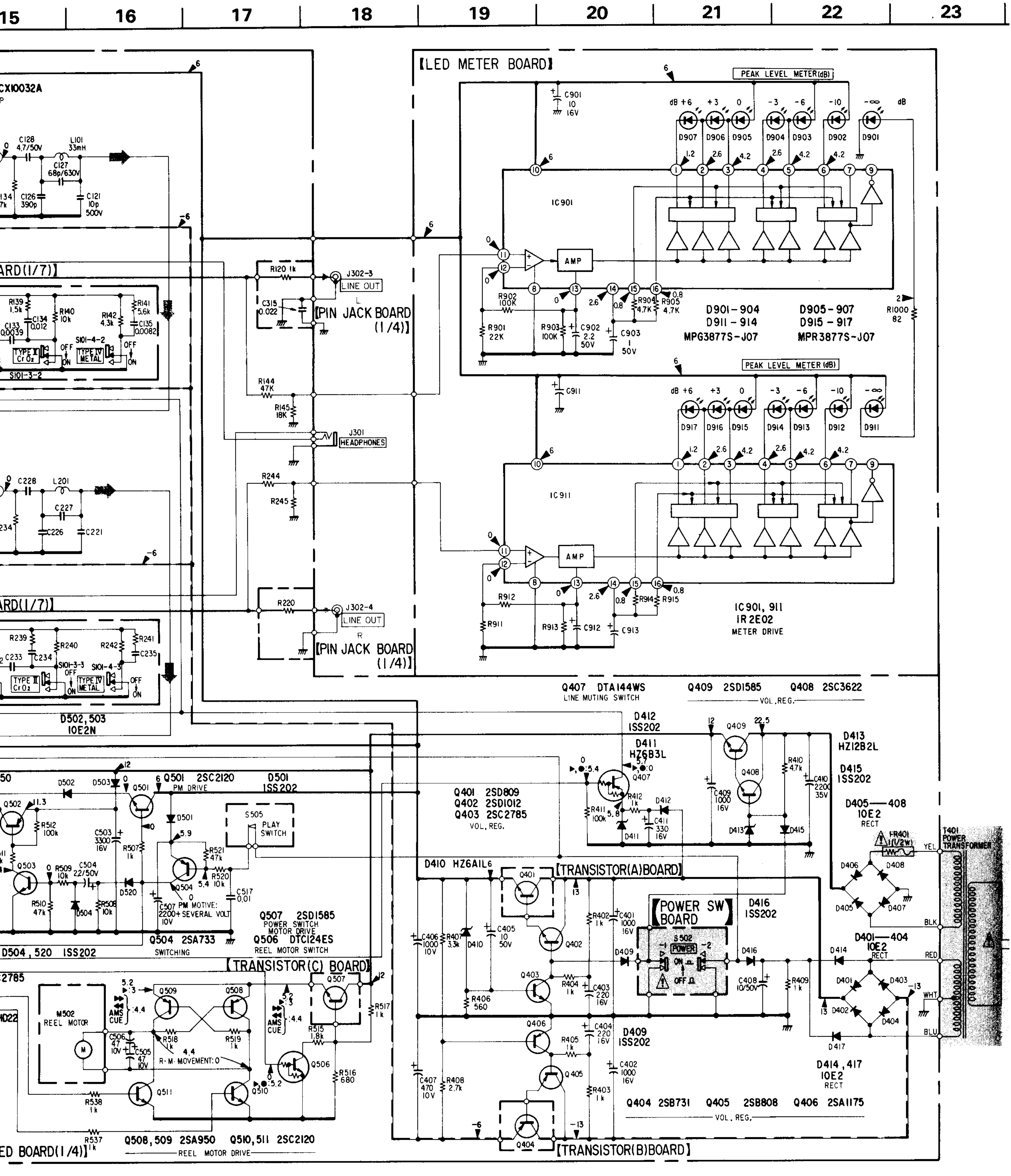
8
9
10
11
【AUDIO BOARD】(CONDUCTOR SIDE)
(CONDUCTOR
SIDE)
13
IC303
Q406
Q405
Q403
Q402
C407
C406
C404
C403
C402
C401
R407
R408
R405
R403
R404
R225
R224
R223
R124
R125
FR401
RED
WHT
BLU
BLK

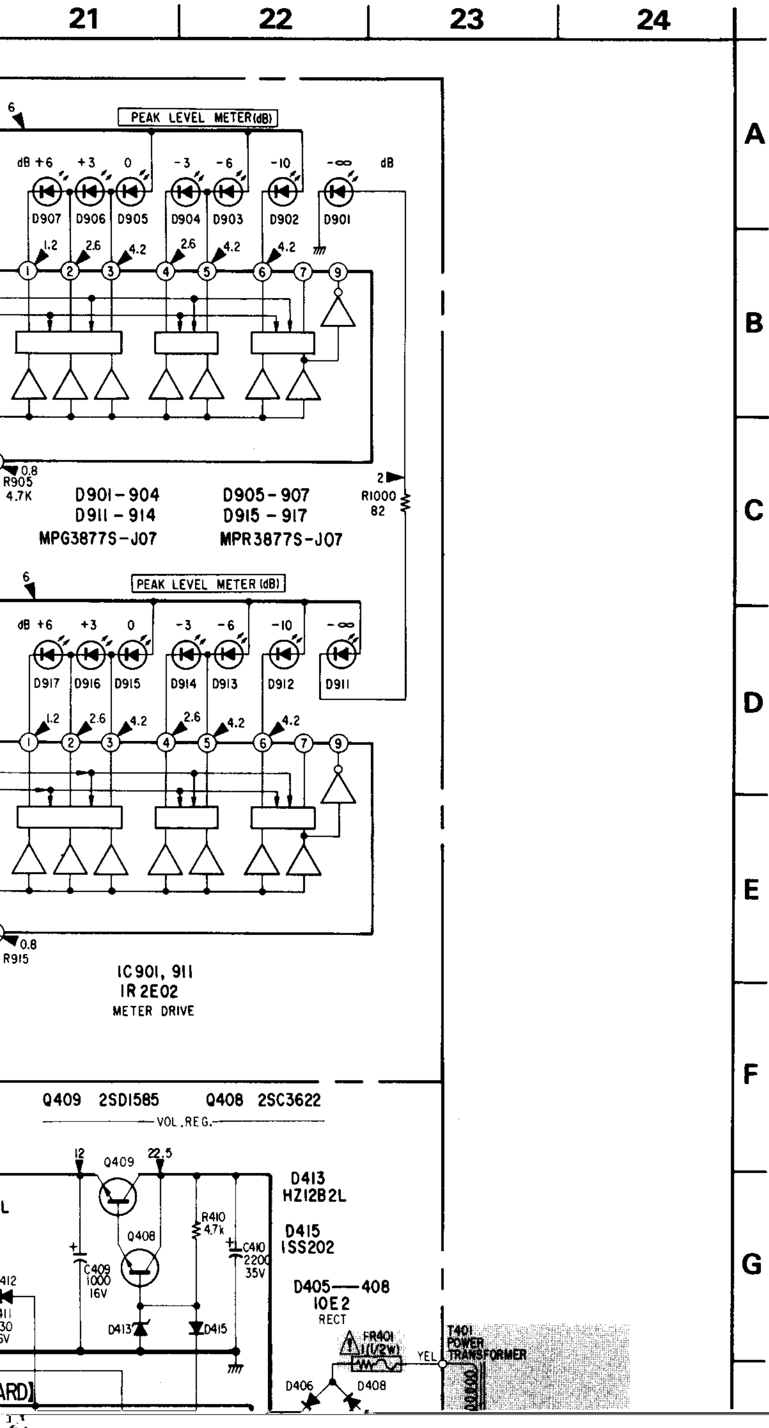

15
16
17
18
19
20
22
23
24
CNJ501
CNJ502
T401
POWER TRANSFORMER
[LED METER BOARD]
(COMPORNENT SIDE)
0.8 0.8 2.6 0 0 0 6
RED
WHT
BLU
YEL

## 3-2. SCHEMATIC DIAGRAM




IC302 CX20187
DOLBY AMP
IC304 CX10032A
REC AMP
Q104 2SC2785
REC MUTING
IC303 M5218L
HEADPHONE AMP
Q102 2SD1020
LINE MUTING
Q103 DTC114ES
CUE MUTING
[PUSH SW BOARD(1/7)]
Q204 2SC2785
REC MUTING
Q202 2SD1020
LINE MUTING
Q203 DTC114ES
CUE MUTING
Q515 DTC114ES
SWITCHING
Q308 DTC114ES
Q522 DTC114ES
Q513 DTA114ES
Q512 DTC114ES
Q523 DTC143TS
SWITCHING
[LED BOARD(1/4)]
D507 1SS202
D516 GL-5HY22
D517, 518 GL-5EG22
Q516, 517 DTC143TS
SWITCHING
Q502 2SA950
PM DRIVE
D505 1SS202
Q505 2SD1387
MOTOR DRIVE
CAPSTAN MOTOR
[MD SW BOARD(A)]
D504, 520 1SS202
IC501 TC9312N-045
MECHANISM CONTROLLER
Q503 2SC2785
PM DRIVE
M502
REEL MOTOR
D514 GL-5EG22 D515 GL-5HD22
[KEY BOARD SWITCH BOARD]
Q514 2SC2785
HALF DET
D519 1SS202
[MD SW BOARD(B)]


15
16
17
18
19
20
21
22
23
CXA10032A
C128 4.7/50V
L101 33mH
C127 68p/630V
C126 390p
C121 10p 500V
ARD(1/7)
R139 1.5k
C134 0.012
R140 10k
R142 4.3k
R141 5.6k
C135 0.0082
C133 0.0039
S101-4-2
TYPE II CrO2
TYPE IV METAL
S101-3-2
R120 1k
J302-3
LINE OUT
L
C315 0.022
PIN JACK BOARD (1/4)
R144 47K
R145 18K
J301
HEADPHONES
R244
R245
C228
L201
C227
C226
C221
R220
J302-4
LINE OUT
R
PIN JACK BOARD (1/4)
R239
R240
R242
R241
C235
C233
C234
S101-3-3
S101-4-3
OFF
ON
D502, 503
10E2N
LED METER BOARD
PEAK LEVEL METER(dB)
C901 10 16V
dB +6
+3
0
-3
-6
-10
-∞
dB
D907
D906
D905
D904
D903
D902
D901
IC901
AMP
R902 100K
R901 22K
R903 100K
C902 2.2 50V
C903 1 50V
R904 4.7K
R905 4.7K
D901-904
D911-914
MPG3877S-J07
D905-907
D915-917
MPR3877S-J07
R1000 82
C911
D917
D916
D915
D914
D913
D912
D911
IC911
R912
R911
R913
C912
C913
R914
R915
IC901, 911
IR2E02
METER DRIVE
Q407 DTA144WS
LINE MUTING SWITCH
Q409 2SD1585
Q408 2SC3622
VOL. REG.
D412
1SS202
D411
HZ6B3L
D413
HZ12B2L
D415
1SS202
R410 4.7k
C410 2200 35V
C409 1000 16V
R411 100k
R412 1k
C411 330 16V
D405—408
10E2
RECT
R401 1(1/2W)
T401
POWER TRANSFORMER
YEL
BLK
RED
WHT
BLU
Q401 2SD809
Q402 2SD1012
Q403 2SC2785
VOL. REG.
Q501 2SC2120
PM DRIVE
D501
1SS202
D502
D503
R512 100k
C503 3300 16V
R507 1k
S505
PLAY SWITCH
R521 47k
R520 10k
C517 0.01
R509 10k
C504 22/50V
R510 47k
R506 10k
D504
D520
C507 PM MOTIVE: 2200+SEVERAL VOLT 10V
Q507 2SD1585
POWER SWITCH MOTOR DRIVE
Q504 2SA733
SWITCHING
Q506 DTC124ES
REEL MOTOR SWITCH
D504, 520 1SS202
TRANSISTOR(C) BOARD
M502
REEL MOTOR
AMS CUE
C506 47 10V
C505 47 10V
R518
R519 1k
R-M MOVEMENT: 0
R515 1.8k
R517 1k
R516 680
R538 1k
R537 1k
ED BOARD(1/4)
Q508, 509 2SA950
Q510, 511 2SC2120
REEL MOTOR DRIVE
D410 HZ6A1L
TRANSISTOR(A)BOARD
POWER SW BOARD
S502
POWER
ON
OFF
D416
1SS202
C406 1000 10V
R407 3.3k
C405 10 50V
R402 1k
C401 1000 16V
R404 1k
C403 220 16V
C408 10/50V
R409 1k
D414
10E2
RECT
D401—404
R406 560
C404 220 16V
D409
1SS202
R405 1k
C402 1000 16V
R403 1k
C407 470 10V
R408 2.7k
D417
D414, 417
10E2
RECT
Q404 2SB731
Q405 2SB808
Q406 2SA1175
VOL. REG.
TRANSISTOR(B)BOARD




**Note:**

- All capacitors are in $\mu$F unless otherwise noted. pF: $\mu\mu$F 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in $\Omega$ and $^1/_4$W or less unless otherwise specified.

**Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- △ : internal component.
- (fusible resistor symbol) : fusible resistor.
- Switch

| Ref. No. | Switch | Position |
|---|---|---|
| S502 | POWER | OFF |
| S503 | CASSETTE HALF DET/ ERASE PROOF (A) | OFF |
| S504 | ERASE PROOF (B) | OFF |
| S505 | PLAY | OFF |
| S506 | DIRECTION | OFF |
| S811 | REW | OFF |
| S812 | FWD | OFF |
| S813 | REV | OFF |
| S814 | FF | OFF |
| S815 | REC | OFF |
| S816 | STOP | OFF |
| S817 | PAUSE | OFF |
| S818 | REC MUTE | OFF |

- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B– bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 k$\Omega$/V).
- Voltage variations may be noted due to normal production tolerances.
- ▶ : PLAY ◀◀ : REW ● : REC
  ▶▶ : FF ■ : STOP
- Waveforms are taken to ground in STOP mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- → : playback signal path

## SECTION 4
# EXPLODED VIEWS AND PARTS LIST

NOTE:
The mechanical parts with no reference number in the exploded views are not supplied.

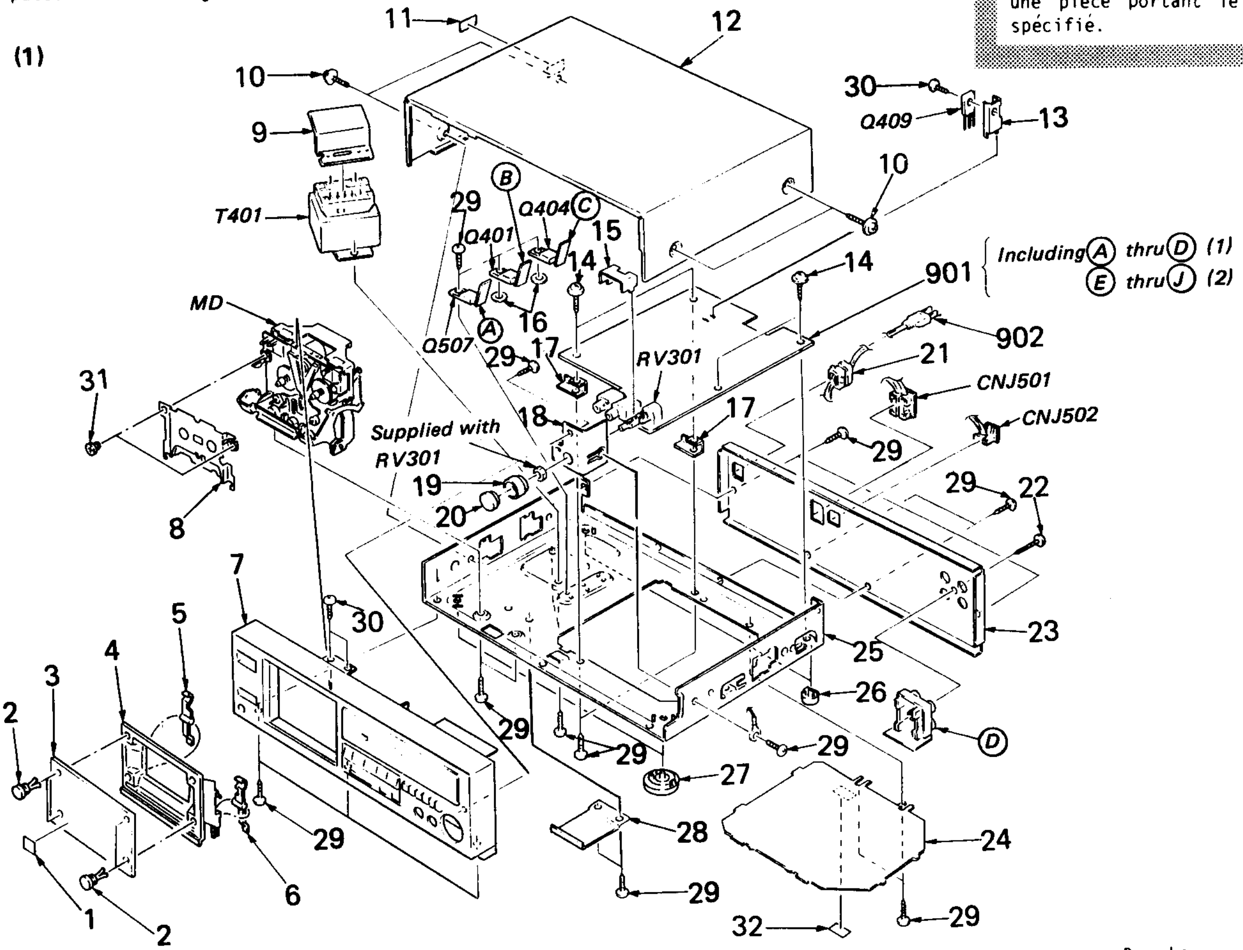
· Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

· The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

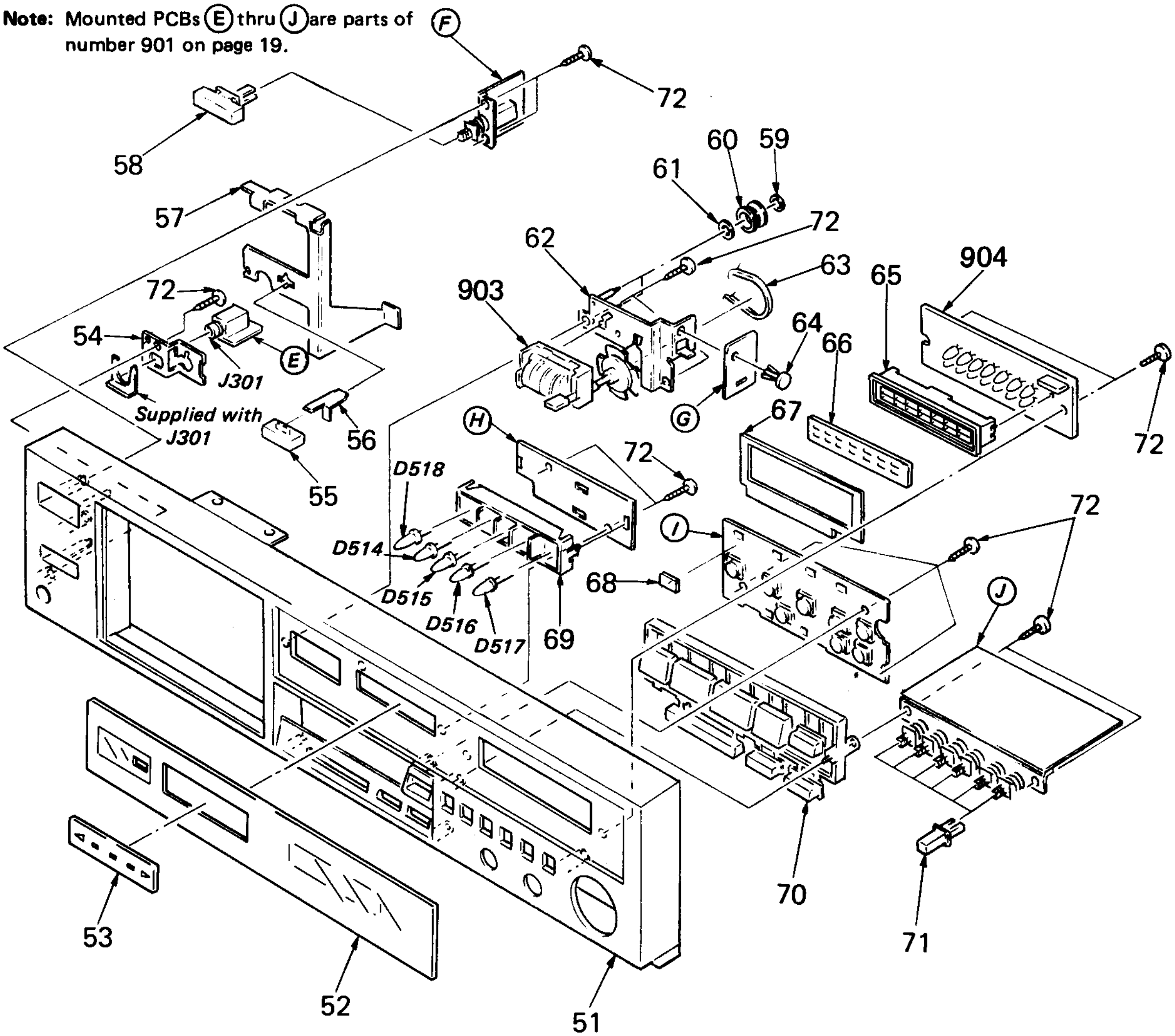
Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | 3-703-710-41 | STICKER, SONY SYMBOL (12) | |
| 2 | *3-337-123-01 | PIN, STOPPER, CASSETTE WINDOW | |
| 3 | 3-332-543-01 | WINDOW, CASSETTE | |
| 4 | X-3332-516-1 | HOLDER ASSY, CASSETTE | |
| 5 | 3-307-371-00 | SPRING (LEFT) | |
| 6 | 3-307-372-00 | SPRING (RIGHT) | |
| 7 | X-3332-518-1 | (US,Canadian)...PANEL ASSY, FRONT | |
| | X-3332-519-1 | (AEP,UK)........PANEL ASSY, FRONT | |
| 8 | *3-332-547-01 | PLATE, ORNAMENTAL | |
| 9 | *3-337-136-01 | COVER, TRANSFORMER SAFETY | |
| 10 | 4-886-821-01 | SCREW, M3 CASE | |
| 11 | 3-703-079-21 | (UK)....LABEL, CAUTION (BACK) | |
| 12 | 3-332-529-01 | CASE | |
| 13 | *4-854-790-00 | HEAT SINK | |
| 14 | 3-703-249-01 | SCREW, S TIGHT, +PTTWH 3X6 | |
| 15 | *3-332-533-01 | PLATE, SHIELD, M.J. | |
| 16 | 3-572-365-01 | SHEET (A), INSULATING | |
| 17 | *3-332-428-01 | BRACKET (1), PC BOARD | |
| 18 | *3-332-512-01 | BRACKET, VOL | |
| 19 | 3-332-519-01 | KNOB (LEFT), REC VOL | |
| 20 | 3-332-518-01 | KNOB (RIGHT), REC VOL | |
| 21 | 3-703-244-02 | (AEP,UK)............BUSHION (2104), CORD | |
| | 3-703-571-00 | (US,Canadian)...BUSHING (S) (4516), CORD | |
| 22 | 3-703-473-00 | SCREW, TERMINAL | |
| 23 | *3-332-549-01 | (US,Canadian)...PLATE, JACK | |
| | *3-332-549-31 | (AEP)...........PLATE, JACK | |
| | *3-332-549-41 | (UK)............PLATE, JACK | |
| 24 | *3-332-430-01 | PLATE, BOTTOM | |
| 25 | *3-332-438-41 | CHASSIS | |
| 26 | X-4864-303-0 | FOOT ASSY | |
| 27 | X-3337-104-1 | FOOT ASSY, ORNAMENTAL | |
| 28 | *3-332-534-01 | PLATE, SHIELD, HEAD | |
| 29 | 7-685-752-04 | SCREW +BVTT 3X8 (S) | |
| 30 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| 31 | 7-621-772-00 | SCREW +B 2X3 | |
| 32 | 3-703-680-00 | LABEL, CAUTION, SUB, NEW UL | |
| 901 | *A-2095-599-A | MOUNTED PCB, SYSTEM CONTROL (Including A thru J) | |
| 902 | ⚠1-534-817-XX | (AEP)....CORD, POWER: EURO PLUG | |
| | ⚠1-551-628-00 | (US,Canadian)....CORD, POWER | |
| | ⚠1-551-884-32 | (UK)............CORD, POWER | |
| CNJ501 | *1-558-520-11 | CORD (WITH CONNECTOR) 3P | |
| CNJ502 | *1-558-235-11 | CORD (WITH CONNECTOR) | |
| CNP101 | *1-564-705-11 | PIN, CONNECTOR (SMALL TYPE) 3P | |
| CNP102 | *1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P | |
| CNP103 | *1-564-507-11 | PLUG, CONNECTOR 4P | |
| Q401 | 8-729-180-93 | TRANSISTOR 2SD809 | |
| Q404 | 8-729-173-13 | TRANSISTOR 2SB731 | |
| Q409 | 8-729-107-26 | TRANSISTOR 2SD1585-K | |
| Q507 | 8-729-107-26 | TRANSISTOR 2SD1585-K | |
| RV301 | 1-226-754-31 | RES, VAR 20K/20K (REC LEVEL) | |
| T401 | ⚠1-448-554-11 | (US,Canadian)...TRANSFORMER, POWER | |
| T401 | ⚠1-448-556-11 | (AEP,UK).......TRANSFORMER, POWER | |

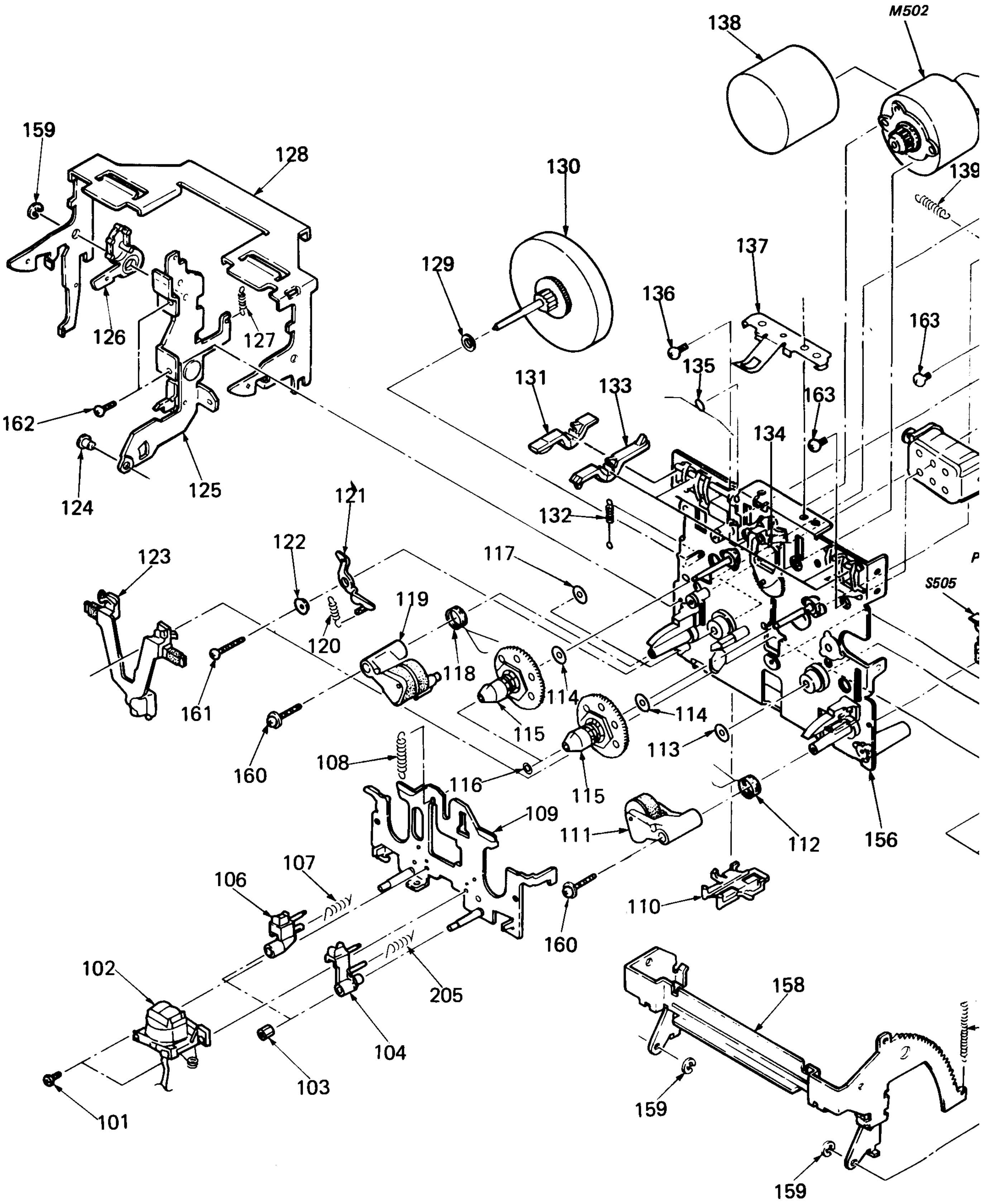
**(2) Note:** Mounted PCBs (E) thru (J) are parts of number 901 on page 19.




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 51 | X-3332-518-1 | (US,Canadian)...PANEL ASSY, FRONT | |
| | X-3332-519-1 | (AEP,UK)........PANEL ASSY, FRONT | |
| 52 | 3-332-522-01 | PLATE (L), TRANSPARENT | |
| 53 | 3-332-521-01 | PLATE, INDICATION | |
| 54 | *3-332-517-01 | BRACKET, HEADPHONE | |
| 55 | 3-304-419-31 | BUTTON, EJECT | |
| 56 | *3-332-515-01 | SLIDER, EJECT | |
| 57 | *3-332-516-01 | LEVER, EJECT | |
| 58 | 3-332-417-01 | KNOB (POWER), PUSH | |
| 59 | 3-558-708-11 | WASHER, STOPPER | |
| 60 | 3-549-452-00 | PULLEY, SHUT-OFF | |
| 61 | 3-701-437-11 | WASHER | |
| 62 | *X-3332-515-1 | BRACKET ASSY, COUNTER | |
| 63 | 3-538-025-XX | BELT, COUNTER | |
| 64 | 4-812-134-11 | RIVET NYLON, 3.5 | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 65 | *3-332-551-01 | HOLDER, LED | |
| 66 | *3-332-463-21 | PLATE, ORNAMENTAL, LED | |
| 67 | 3-332-449-01 | CUSHION, DISPLAY | |
| 68 | *3-332-539-01 | RUBBER, SPACER | |
| 69 | *3-332-525-01 | HOLDER, LED | |
| 70 | 3-332-524-01 | BUTTON, CONTROL | |
| 71 | 4-855-804-11 | KNOB, SQUARE | |
| 72 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |
| 903 | 1-548-589-31 | COUNTER, TAPE (MIDDLE TYPE) | |
| 904 | *1-621-848-11 | PC BOARD, LED METER | |
| D514 | 8-719-811-44 | DIODE TLG114A | |
| D515 | 1-806-986-11 | DIODE GL5HD22 | |
| D516 | 8-719-906-44 | DIODE GL-5HY22 | |
| D517 | 8-719-811-44 | DIODE TLG114A | |
| D518 | 8-719-811-44 | DIODE TLG114A | |
| J301 | 1-507-796-21 | JACK (HEADPHONES) | |

(3)


138
M502
159
128
130
139
129
137
136
163
126
127
135
131
133
163
162
134
124
125
121
132
117
P
122
123
S505
119
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101
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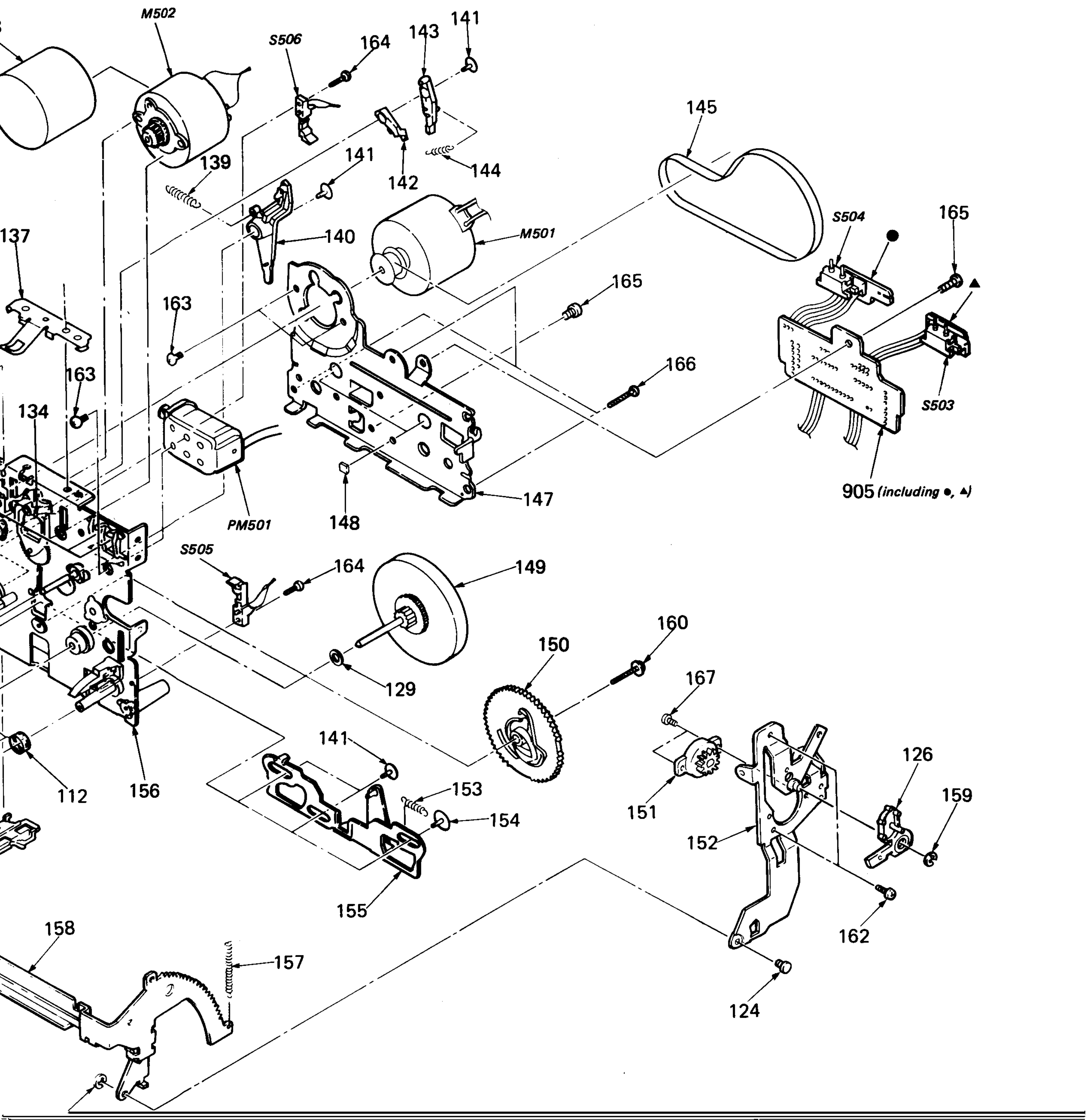
M502
S506
164
143
141
145
139
141
142
144
137
140
M501
S504
165
165
163
163
166
134
S503
905 (including ●, ▲)
147
PM501
148
S505
164
149
160
150
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112
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153
159
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124

# SECTION 5
# ELECTRICAL PARTS LIST

NOTE:

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine. only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U :μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piece portant le numéro spécifié.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| 901 | *A-2095-599-A | MOUNTED PCB, SYSTEM CONTROL (Including A thru J) | | | |
| 902 | ⚠ 1-534-817-11 | (AEP).....CORD, POWER, EURO PLUG | | | |
| | ⚠ 1-551-520-00 | (US,Canadian)...CORD, POWER | | | |
| | ⚠ 1-551-834-32 | (UK)............CORD, POWER | | | |
| 903 | i-548-589-31 | COUNTER, TAPE (MIDDLE TYPE) | | | |
| 904 | *1-621-848-11 | PC BOARD, LED METER | | | |
| 905 | 1-589-077-11 | PC BOARD BLOCK | | | |
| C101 | 1-124-791-11 | ELECT | 1MF | 20% | 5ov |
| C102 | 1-162-292-31 | CERAMIC | 680PF | 10% | 5ov |
| C104 | 1-124-791-11 | ELECT | 1MF | 20% | 5ov |
| C106 | 1-124-907-00 | ELECT | 10MF | 20% | 5ov |
| C107 | 1-124-907-00 | ELECT | 10MF | 20% | 5ov |
| C108 | 1-110-203-00 | MYLAR | 0.0047MF | 5% | 5ov |
| C109 | 1-136-173-00 | FILM | 0.47MF | 5% | 5ov |
| C110 | 1-136-167-00 | FILM | 0.15MF | 5% | 5ov |
| C111 | 1-136-155-00 | FILM | 0.015MF | 5% | 5ov |
| C112 | 1-136-169-00 | FILM | 0.22MF | 5% | 5ov |
| C113 | 1-136-163-00 | FILM | 0.068MF | 5% | 5ov |
| C114 | 1-136-161-00 | FILM | 0.047MF | 5% | 5ov |
| C115 | 1-130-481-00 | MYLAR | 0.0068MF | 5% | 5ov |
| C116 | 1-136-153-00 | FILM | 0.01MF | 5% | 5ov |
| C117 | 1-124-927-11 | ELECT | 4.7MF | 20% | 5ov |
| C118 | 1-124-902-00 | ELECT | 0.47MF | 20% | 5ov |
| C119 | 1-124-183-00 | ELECT | 2.2MF | 20% | 5ov |
| C120 | 1-162-289-31 | CERAMIC | 390PF | 10% | 5ov |
| C121 | 1-107-202-00 | MICA | 10PF | 5% | 5oov |
| C123 | 1-136-157-00 | FILM | 0.022MF | 5% | 5ov |
| C124 | 1-124-183-00 | ELECT | 2.2MF | 20% | 5ov |
| C125 | 1-110-203-00 | MYLAR | 0.0047MF | 5% | 5ov |
| C126 | 1-162-289-31 | CERAMIC | 390PF | 10% | 5ov |
| C127 | 1-136-272-00 | FILM | 68PF | 5% | 630V |
| C128 | 1-124-185-00 | ELECT | 4.7MF | 20% | 5ov |
| C129 | 1-123-332-00 | ELECT | 47MF | 20% | 16V |
| C130 | 1-124-925-11 | ELECT | 2.2MF | 20% | 5ov |
| C131 | 1-130-481-00 | MYLAR | 0.0068MF | 5% | 50V |
| C132 | 1-110-201-00 | MYLAR | 0.0033MF | 5% | 50V |
| C133 | 1-130-478-00 | MYLAR | 0.0039MF | 5% | 50V |
| C134 | 1-136-154-00 | FILM | 0.012MF | 5% | 5ov |
| C135 | 1-110-206-00 | MYLAR | 0.0082MF | 5% | 5ov |
| C136 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C301 | 1-124-907-00 | ELECT | 10MF | 20% | 50V |
| C302 | 1-124-907-00 | ELECT | 10MF | 20% | 50V |
| C303 | 1-124-905-11 | ELECT | 3.3MF | 20% | 50V |
| C305 | 1-124-791-11 | ELECT | 1MF | 20% | 50V |
| C306 | 1-124-791-11 | ELECT | 1MF | 20% | 50V |
| C307 | 1-124-907-00 | ELECT | 10MF | 20% | 50V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| C308 | 1-124-927-11 | ELECT | 4.7MF | 20% | 5ov |
| C309 | 1-130-336-00 | FILM | 0.0068MF | 10% | 630V |
| C310 | 1-130-289-91 | FILM | 0.0047MF | 5 % | 100V |
| c311 | 1-130-285-00 | FILM | 0.0033MF | 5 % | 100V |
| C312 | 1-130-285-00 | FILM | 0.0033MF | 5% | 100V |
| c313 | 1-124-925-11 | ELECT | 2.2MF | 20% | 5ov |
| C314 | 1-124-902-00 | ELECT | 0.47MF | 20% | 50V |
| C315 | 1-161-494-00 | CERAMIC | 0.022MF | 30% | 25V |
| C401 | 1-124-555-00 | ELECT | 1000MF | 20% | 16V |
| C402 | 1-124-555-00 | ELECT | 1000MF | 20% | 16V |
| C403 | 1-123-321-00 | ELECT | 220MF | 20% | 16V |
| C404 | 1-123-321-00 | ELECT | 220MF | 20% | 16V |
| C405 | 1-124-907-00 | ELECT | 10MF | 20% | 5ov |
| C406 | I-124-473-11 | ELECT | 1000MF | 20% | 10V |
| C407 | 1-124-472-11 | ELECT | 470MF | 20% | 10V |
| C408 | 1-124-907-00 | ELECT | 10MF | 20% | 5ov |
| C409 | 1-124-555-00 | ELECT | 1000MF | 20% | 16V |
| C410 | 1-124-618-11 | ELECT | 2200MF | 20% | 35v |
| C411 | 1-124-119-00 | ELECT | 330MF | 20% | 16V |
| C501 | 1-110-206-00 | MYLAR | 0.0082MF | 5 % | 5ov |
| C502 | 1-124-925-11 | ELECT | 2.2MF | 20% | 5ov |
| C503 | 1-124-897-11 | ELECT | 3300MF | 20% | 16V |
| C504 | 1-124-925-11 | ELECT | 2.2MF | 20% | 5ov |
| C505 | 1-124-892-11 | ELECT | 47MF | 20% | 10V |
| C506 | 1-124-892-11 | ELECT | 47MF | 20% | 10V |
| C507 | 1-124-893-11 | ELECT | 2200MF | 20% | 10V |
| C508 | 1-124-791-11 | ELECT | 1MF | 20% | 5ov |
| C509 | I-162-294-31 | CERAMIC | 0.001MF | 10% | 5ov |
| C510 | 1-162-284-31 | CERAMIC | 150PF | 10% | 5ov |
| C511 | 1-162-284-31 | CERAMIC | 150PF | 10% | 5ov |
| c517 | I-161-379-00 | CERAMIC | 0.01MF | 30% | 16V |
| C518 | 1-124-927-11 | ELECT | 4.7MF | 20% | 5ov |
| c519 | 1-124-963-11 | ELECT | 33MF | 20% | 16V |
| C901 | 1-123-617-00 | ELECT | 10MF | 20% | 16V |
| C902 | 1-123-612-00 | ELECT | 2.2MF | 20% | 5ov |
| C903 | 1-123-611-00 | ELECT | 1MF | 20% | 5ov |
| C911 | 1-123-617-00 | ELECT | 10MF | 20% | 16V |
| c912 | 1-123-612-00 | ELECT | 2.2MF | 20% | 5ov |
| c913 | 1-123-611-00 | ELECT | 1MF | 20% | 5ov |
| CNJ501 | *1-558-520-11 | CORD (WITH CONNECTOR) 3P | | | |
| CNJ502 | *1-558-235-11 | CORD (WITH CONNECTOR1 | | | |
| CNP101 | *1-564-705-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| CNP102 | *1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P | | | |
| CNP103 | *1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CT301 | 1-141-225-00 | CAP, TUNING, TRIMMER | | | |

## ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| D301 | 8-719-107-94 | DIODE 1SS202-1 |
| D401 | 8-719-200-02 | DIODE 10E2 |
| MO2 | 8-719-200-02 | DIODE 10E2 |
| D403 | E-719-200-02 | DIODE 10E2 |
| D404 | 8-719-200-02 | DIODE 10E2 |
| D405 | B-719-200-02 | DIODE 10E2 |
| D406 | 8-719-200-02 | DIODE 10E2 |
| D407 | 8-719-200-02 | DIODE 10E2 |
| 0408 | 8-719-200-02 | DIODE 10E2 |
| 0409 | 8-719-107-94 | DIODE 1SS202-1 |
| D410 | 8-719-933-33 | DIODE HZS6A1L |
| D411 | B-719-933-33 | DIODE HZS6B3L |
| 0412 | 8-719-107-94 | DIODE 1SS202-1 |
| D413 | B-719-933-77 | DIODE HZS12B2L |
| D414 | 8-719-200-02 | DIODE 10E2 |
| D415 | 8-719-107-94 | DIODE 1SS202-1 |
| D416 | B-719-107-94 | DIODE 1SS202-1 |
| D417 | 8-719-200-02 | DIODE 10E2 |
| D501 | B-719-107-94 | DIODE 1SS202-1 |
| 0502 | 8-719-200-02 | DIODE 10E2 |
| D503 | B-719-200-02 | DIODE 10E2 |
| D504 | 8-719-107-94 | DIODE 1SS202-1 |
| D505 | B-719-107-94 | DIODE 155202-l |
| D507 | 8-719-107-94 | DIODE 1SS202-1 |
| D511 | 8-719-200-02 | DIODE 10E2 |
| D512 | 8-719-107-94 | DIODE 1SS202-1 |
| D513 | 8-719-107-94 | DIODE 1SS202-1 |
| D514 | 8-719-811-44 | DIODE TLG114A |
| D515 | 1-806-986-11 | DIODE GL5HD22 |
| D516 | 8-719-906-44 | DIODE GL-5HY22 |
| D517 | B-719-811-44 | DIODE TLG114A |
| D518 | B-719-811-44 | DIODE TLG114A |
| D519 | 8-719-107-94 | DIODE 1SS202-1 |
| 0520 | 8-719-107-94 | DIODE 1SS202-1 |
| 0901 | 8-719-942-16 | DIODE MPG3877S-J07 |
| D902 | 8-719-942-16 | DIODE MPG3877S-J07 |
| D903 | B-719-942-16 | DIODE MPG3877S-J07 |
| D904 | 8-719-942-16 | DIODE MPG3877S-J07 |
| D905 | 8-719-942-18 | DIODE MPR3877S-J07 |
| D906 | 8-719-942-18 | DIODE MPR3877S-J07 |
| D907 | B-719-942-18 | DIODE MPR3877S-J07 |
| D911 | 8-719-942-16 | DIODE MPG3877S-J07 |
| 0912 | 8-719-942-16 | |
| D913 | 8-719-942-16 | |
| D914 | 8-719-942-16 | |
| D915 | 8-719-942-18 | |
| D916 | 8-719-942-18 | |
| D917 | B-719-942-18 | |
| F101 | l-231-388-00 | |
| F102 | l-235-186-00 | |
| F201 | l-231-388-00 | |
| F202 | l-235-186-00 | |

## ELECTRIC AL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| IC301 | B-759-600-02 | IC M5218L |
| IC302 | 8-752-018-70 | IC CX20187 |
| IC303 | 8-759-600-02 | IC M5218L |
| IC304 | 8-759-101-55 | IC CX10032A |
| IC501 | 8-759-207-97 | IC TC9312N-045 |
| IC502 | 8-759-602-47 | IC M50761-417P |
| IC901 | 8-759-912-79 | IC IR2E02 |
| IC911 | B-759-912-79 | IC IR2E02 |
| J 101 | l-507-854-00 | JACK, LARGE TYPE (MIC L) |
| J201 | l-507-854-00 | JACK, LARGE TYPE (MIC R) |
| 5301 | l-507-796-21 | JACK (HEADPHONES ) |
| 5302 | l-507-908-11 | JACK, PIN 4P |
| L101 | l-408-930-00 | MICRO INDUCTOR 33MMH |
| L102 | l-408-924-00 | MICRO INDUCTOR 10MMH |
| L201 | l-408-930-00 | MICRO INDUCTOR 33MMH |
| L202 | l-408-924-00 | MICRO INDUCTOR 10MMH |
| M501 | x-3391-130-1 | MOTOR ASSY |
| M502 | X-3391-118-1 | MOTOR ASSY |
| PI501 | B-719-902-90 | PHOTO INTERRUPTOR SPI201- |
| PM501 | l-454-428-11 | SOLENOID, PLUNGER |
| 4102 | 8-729-100-13 | TRANSISTOR 2SC2001 |
| Q103 | 8-729-900-80 | TRANSISTOR DTC114ES |
| 9104 | B-729-100-13 | TRANSISTOR 2SC2001 |
| 4202 | 8-729-100-13 | TRANSISTOR 2SC2001 |
| Q203 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q204 | 8-729-100-13 | TRANSISTOR 2SC2001 |
| Q301 | 8-729-900-80 | TRANSISTOR DTC114ES |
| 8302 | 8-729-900-61 | TRANSISTOR DTA114ES |
| Q303 | 8-729-900-80 | TRANSISTOR DTC114ES |
| 9304 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q305 | 8-729-900-61 | TRANSISTOR DTA114ES |
| Q306 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| 4307 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q308 | 8-729-900-80 | TRANSISTOR DTC114ES |
| Q401 | 8-729-180-93 | TRANSISTOR 2SD809 |
| Q402 | 8-729-811-22 | TRANSISTOR 2SD1012-F2 |
| 9403 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| 9404 | 8-729-173-13 | TRANSISTOR 2SB731 |
| 9405 | 8-729-800-83 | TRANSISTOR 2SB808 |
| Q406 | 8-729-117-54 | TRANSISTOR 2SA1175 |
| 4407 | | |
| 0505 | | |
| Q507 | | |

## TROUBLE CHECKS

The following trouble checks will help you correct the most common problems encountered with **your tape** deck. Should any problems persist after making these checks, consult your nearest Sony dealer.
Before proceeding with these trouble checks, first confirm the following basic points:

- The power cord is firmly connected.
- *The amplifier connections are firmly made.
- The heads, capstan and pinch roller are clean.
- The amplifier controls and switches are set correctly.

| FUNCTION BUTTONS AND TAPE TRANSPORT PROBLEMS | | |
|---|---|---|
| Symptom | Cause | Remedy |
| Function buttons do not activate. | Cassette holder is not fully closed. | Close the holder completely. |
| ● button does not activate. | No cassette in the holder. | Insert a cassette. |
| | Tab has been removed from the cassette. | Cover the hole with plastic tape. |
| Automatic shut-off mechanism activates before the tape comes to its end. | Tape is slack. | Take up the tape slack. |
| | Cassette shell is deformed. | Use other cassettes. |
| | The inside of the cassette holder is illuminated by stronq liqht. | Remove the light source. |
| Excessively loud tape transport noise when rewinding or fast-forwarding | This depends on the cassette used and is not a problem. | |

| RECORDING AND PLAYBACK PROBLEMS | | |
|---|---|---|
| **Symptom** | **Cause** | Remedy |
| Quick reverse function does not operate. | DIRECTION MODE selector is released (⊐ ⇄ ). | Press the selector and set to ⊐ ↻ (depressed). |
| Recording or playback cannot be made or there is a decrease in sound level. | Record/playback and erase heads are either dirty or magnetized. | Clean or demagnetize the heads. |
| | Improper connection | Make connections properly. |
| | Improper setting of the amplifier controls | Set the amplifier controls to the appropriate positions. |
| Excessive wow or flutter or dropout | Head, capstan or pinch roller is dirty. | **Clean them.** |
| Incomplete erasure | Erase head is dirty. | Clean the erase head. |
| Increased noise or poor reproduction in high frequencies | Head is magnetized. | Demagnetize the head. |
| Unbalanced tone in high frequencies | Improper setting of the DOLBY NR switch. | When playing back, set the button to the same position used in recording. |
| | Improper setting of the TAPE select switches. | If recorded with the wrong button pressed, adjust the tone controls of the amplifier in playback. |
| | The unit is placed near a television set. | Move the deck away from the television set. |

| **NOISE** | | |
|---|---|---|
| **Symptom** | **Cause** | **Remedv** |
| Hum noise | Tape deck is stacked on or under the amolifier | Separate the units. |
| Noise is recorded. | Recording was made near such equipment as a television set or a color monitor, and interference has affected the recording on the tape and the Dolby NR system.. | Move the unit away from television set or color monitor. |
| Oscillation occurs when trying to record from microphones. | The microphone is too close to the speakers. | Move it away from the speakers or reduce the amplifier volume. |

**Sony Corporation**
**Audio Group**

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